

CLAIMS

1. An anisotropically conductive connector comprising elastic anisotropically conductive films each
5 having a functional part, in which a plurality of conductive parts for connection containing conductive particles and extending in a thickness-wise direction of the film have been arranged in a state mutually insulated by an insulating part,
10 wherein assuming that a thickness of the conductive parts for connection in the functional part of the elastic anisotropically conductive film is T_1 and a thickness of the insulating part in the functional part is T_2 , a ratio (T_2/T_1) is at least 0.9.
- 15 2. An anisotropically conductive connector suitable for use in conducting electrical inspection of each of a plurality of integrated circuits formed on a wafer in a state of the wafer, which comprises:
a frame plate, in which a plurality of
20 anisotropically conductive film-arranging holes each extending through in a thickness-wise direction of the frame plate have been formed corresponding to electrode regions, in which electrodes to be inspected have been arranged, in all or part of the integrated circuits formed
25 on the wafer, which is an object of inspection, and a plurality of elastic anisotropically conductive films arranged in the respective anisotropically conductive film-

arranging holes in this frame plate and each supported by the peripheral part about the anisotropically conductive film-arranging hole,

wherein each of the elastic anisotropically
5 conductive films is equipped with a functional part having a plurality of conductive parts for connection arranged corresponding to the electrodes to be inspected in the integrated circuits formed on the wafer, which is the object of inspection, containing conductive particles
10 exhibiting magnetism at a high density and extending in a thickness-wise direction of the film, and an insulating part mutually insulating these conductive parts for connection, and

wherein assuming that a thickness of the conductive
15 parts for connection in the functional part of the elastic anisotropically conductive film is T_1 and a thickness of the insulating part in the functional part is T_2 , a ratio (T_2/T_1) is at least 0.9.

3. The anisotropically conductive connector
20 according to claim 2, wherein at least one surface of the functional part in each of the elastic anisotropically conductive films is flat.

4. The anisotropically conductive connector
according to claim 3, wherein said at least one flat
25 surface of the functional part in each of the elastic anisotropically conductive films is formed so as to project from any other portion, and

wherein assuming that a sum total of areas of one surfaces of the functional parts of all the elastic anisotropically conductive films is S_1 , and an area of a surface of the wafer, which is the object of inspection, on a side that the electrodes to be inspected have been formed, is S_2 , a ratio S_1/S_2 is 0.001 to 0.3.

5 5. The anisotropically conductive connector according to any one of claims 2 to 4, wherein the coefficient of linear thermal expansion of the frame plate is at most $3 \times 10^{-5}/K$.

6. A probe member suitable for use in conducting electrical inspection of each of a plurality of integrated circuits formed on a wafer in a state of the wafer, which comprises:

15 a circuit board for inspection, on the surface of which inspection electrodes have been formed in accordance with a pattern corresponding to a pattern of electrodes to be inspected of the integrated circuits formed on the wafer, which is an object of inspection, and the anisotropically
20 conductive connector according to any one of claims 2 to 5, which is arranged on the surface of the circuit board for inspection.

7. The probe member according to claim 6, wherein the coefficient of linear thermal expansion of the frame
25 plate in the anisotropically conductive connector is at most $3 \times 10^{-5}/K$, and the coefficient of linear thermal expansion of a base material making up the circuit board

for inspection is at most $3 \times 10^{-5}/K$.

8. The probe member according to claim 6 or 7,
wherein a sheet-like connector composed of an insulating
sheet and a plurality of electrode structures each
5 extending through the insulating sheet in a thickness-wise
direction thereof and arranged in accordance with a pattern
corresponding to the pattern of the electrodes to be
inspected is arranged on the anisotropically conductive
connector.

10 9. A wafer inspection apparatus for conducting
electrical inspection of each of a plurality of integrated
circuits formed on a wafer in a state of the wafer, which
comprises the probe member according to any one of claims 6
to 8,

15 wherein electrical connection to the integrated
circuits formed on the wafer, which is an object of
inspection, is achieved through the probe member.

20 10. A wafer inspection method comprising a step of
electrically connecting each of a plurality of integrated
circuits formed on a wafer to a tester through the probe
member according to any one of claims 6 to 8 to perform
electrical inspection of the integrated circuits formed
on the wafer.